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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,956	10/15/2001	Frank Kappe	KAPPE=1	4398
1444	7590	06/14/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,956

Applicant(s)

KAPPE ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-55 and 74-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 74-76 is/are allowed.
- 6) ☒ Claim(s) 32-35, 37, 38 and 41-44 is/are rejected.
- 7) ☒ Claim(s) 36,39,40 and 45-55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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This action is in response to applicants' amendment of 22 April 2005. The amendments to the claims have overcome the previous rejections.

The indicated allowability of claims 32-35, 37, 38 and 41-44 is withdrawn in view of the newly discovered references. Rejections based on the newly cited reference(s) follow.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-35, 37, 38 and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 2,980,627 in view of U.S. patent 3,607,772.

U.S. patent 2,980,627 teaches producing a zinc sulfide electroluminophores by mixing pure zinc sulfide, a copper precursor and a coactivator precursor selected from an arsenic source or a lead source and an iodide flux, firing the mixture at 850-1100°C in a nitrogen atmosphere for a time to produce the luminophore, allowing the luminophore to cool and then washing the resulting phosphor in water, then washing a diluted carboxylic acid at room temperature and then rewashing in water at least once, which neutralizes the phosphor and then drying the resulting phosphor. The taught firing temperature range overlaps the claimed range. U.S. patent 2,980,627 does not teach how the pure zinc sulfide is produced. U.S. patent 3,607,772 teaches pure zinc sulfide which is used to form zinc sulfide phosphors is produced by precipitating zinc sulfide by passing H₂S into a solution of zinc sulfate (col. 3, lines 23-34). One of ordinary skill in the art would have found it obvious to form the pure zinc sulfide particles which are used in the process of U.S. patent 2,980,627, by the process of U.S. patent 3,607,772 since the process of forming

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the pure zinc sulfide particles does not appear to be critical. While U.S. patent 2,980,627 does not teach the washing time in the acid, but one of ordinary skill in the art would have found it obvious to wash for a time effective to remove any unreacted flux and/or precursors. One of ordinary skill in the art would expect this effective time to overlap the time range in claim 43 since the claimed time range appears to be that effective to remove any unreacted flux and/or precursors, absent to any showing to the contrary. While U.S. patent 2,980,627 does not teach the washing water is deionized, it is well known in the art to use deionized water to wash phosphors as opposed to tap water so as not to precipitate any impurities onto the phosphor which may impair its electroluminescent properties. While the references do not teach the mixing process of claim 38, the order of mixing does not appear to be critical and thus one of ordinary skill in the art would have found it obvious to adjust the order of mixing to provide the most homogenous mixture. *Ex parte Rubin*, 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render *prima facie* obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results); *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is *prima facie* obvious.). The references suggest the claimed process.

Claims 74-76 are allowable over the cited art of record.

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Claims 36, 39, 40 and 45-55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

These claims are allowable for the reasons cited in the previous actions.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
June 10, 2005


C. Melissa Koslow
Primary Examiner
Tech. Center 1700